

## Claims

1. A radio communication device in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to a self-station from the other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

a transmitted electric power detecting part for detecting the transmitted electric power of the self-station;

an error calculating part for obtaining an error between the detected transmitted electric power of the self-station and the set transmitted electric power; and

a buffer unit for preventing the obtained error from greatly changing upon the change of the transmitted electric power over a threshold value when the transmitted electric power is controlled to cross the threshold value as the detection limit of the transmitted electric power of the transmitted electric power detecting part.

2. A radio communication device in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to a self-station from the other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

an electric power value/gain control signal converting part for

converting the set transmitted electric power to a gain control signal of a form for controlling the gain of the variable gain amplifier;

a transmitted electric power detecting part for detecting the transmitted electric power of the self-station;

an error calculating part for comparing the detected transmitted electric power with the gain control signal to calculate an error between them;

a transmitted electric power deciding part for deciding a large or a small value relative to the threshold value of the set transmitted electric power;

an error integrating part that can switch whether or not the calculated error is integrated in accordance with the decided result of the large or the small value relative to the threshold value of the transmitted electric power; and

an adding part for adding the integrated result to the gain control signal and controlling the gain of the variable gain amplifier by an obtained adding signal.

3. A radio communication device in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to a self-station from the other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

a transmitted electric power detecting part for detecting the

transmitted electric power of the self-station;

an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;

a transmitted electric power deciding part for deciding a large or a small value relative to the threshold value of the set transmitted electric power;

a switch part for selecting and outputting any one of the calculated error and a below-described gain control correction value in accordance with the decided result of the large or the small value relative to the threshold value of the set transmitted electric power;

an error deciding part for deciding whether or not an input signal from the switch part is located within a tolerance to output a correction value corresponding to the decided result;

an integrating part for integrating the outputted correction value and outputting an integrated result as the gain control correction value;

an adding part for adding the set transmitted electric power to the gain control correction value; and

an electric power value/gain control signal converting part for converting the added result to a gain control signal of a form for controlling the gain of the variable gain amplifier and outputting the gain control signal to the variable gain amplifier.

4. A radio communication device in which transmitted electric

power is set in accordance with a transmitted electric power control bit sent to a self-station from the other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

- a transmitted electric power detecting part for detecting the transmitted electric power of the self-station;

- an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;

- a transmitted electric power deciding part for deciding a large or a small value relative to the threshold value of the set transmitted electric power;

- a switch part for selecting and outputting any one of the calculated error and a below-described gain control correction value in accordance with the decided result of the large or the small value relative to the threshold value of the set transmitted electric power;

- an error deciding part for deciding whether or not an input signal from the switch part is located within a tolerance to output a correction value corresponding to the decided result;

- an integrating part for integrating the outputted correction value to output the gain control correction value;

- a first electric power value/gain control signal converting part for converting the gain control correction value to a gain control correction signal of a form for controlling the gain of the variable gain

amplifier;

a second electric power value/gain control signal converting part for converting the set transmitted electric power to a gain control signal of a form for controlling the gain of the variable gain amplifier; and

an adding part for adding the gain control signal to the gain control correction signal and controlling the gain of the variable gain amplifier by an obtained adding signal.

5. A radio communication device in which transmitted electric power is set in accordance with a transmitted electric power control bit sent to a self-station from the other station and the gain of a variable gain amplifier of a transmitting system is controlled so as to obtain the set transmitted electric power, characterized in that the radio communication device comprises:

a transmitted electric power detecting part for detecting the transmitted electric power of the self-station;

an error calculating part for comparing the value of the detected transmitted electric power with the set transmitted electric power to calculate an error;

a transmitted electric power deciding part for deciding a large or a small value relative to the threshold value of the set transmitted electric power;

a switch part for selecting and outputting any one of the calculated error and a below-described gain control correction value

in accordance with the decided result of the large or the small value relative to the threshold value of the set transmitted electric power;

an error deciding part for deciding whether or not an input signal from the switch part is located within a tolerance and outputting a correction value corresponding to the decided result;

an integrating part for integrating the outputted correction value to output the gain control correction value;

an adding part for adding the set transmitted electric power to the gain control correction value;

first and second electric power value/gain control signal converting parts for converting the added result to a gain control signal for controlling the gain of the variable gain amplifier; and

a set value deciding part after correction for deciding by which of the first and second electric value/gain control signal converting parts the added result is converted to the gain control signal in accordance with the large or the small value relative to the threshold value for deciding the level of the set transmitted electric power.

6. A radio communication device according to any one of claims 2 to 5, characterized in that the on/off control of the transmitted electric power detecting part or the error calculating part is carried out in accordance with the decided result of the large value or the small value relative to the threshold of the transmitted electric power of the transmitted electric power deciding part.

7. A radio communication device according to any one of claims 1 to 5, characterized in that the transmitted electric power deciding part can change the output timing of the decided result.
8. A radio communication device according to any one of claims 1 to 5, characterized in that the transmitted electric power deciding part can change the output update cycle of the decided result.
9. A radio communication device according to any one of claims 1 to 5, characterized in that the transmitted electric power deciding part can change the threshold value.
10. A radio communication device according to any one of claims 2 to 5, characterized in that the electric power value/gain control signal converting part has a ramping output function to the gain control signal.
11. A radio communication device according to any one of claims 2 to 5, characterized in that the electric power value/gain control signal converting part can select the presence or absence of a ramping output to the gain control signal.
12. A radio communication device according to any one of claims 3 to 5, characterized in that the error deciding part changes the output value of the correction value.

13. A radio communication device according to any one of claims 3 to 5, characterized in that the error deciding part can change the tolerance.

14. A radio communication device according to any one of claims 3 to 5, characterized in that the error deciding part can change the output update cycle of the correction value.

15. A radio communication device according to any one of claims 2 to 5, characterized in that the error calculating part can change the output update cycle of the error.

16. A radio communication device according to claim 5, wherein the set value deciding part after correction can change the threshold for deciding the level of the set transmitted electric power.

17. A radio communication device according to claim 5, characterized in that the set value deciding part after correction can change the output update cycle of the decided result.